

ENVIRONMENT PLAN

Beehive-1 Exploration Drilling

WA-488-P

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Rev 6

6-Environmental Impact & Risk Assessment Methodology

eog resources

6. Environmental Impact & Risk Assessment Methodology

As required under Regulation 21(5) of the OPGGS(E), this chapter describes the environmental impact and risk assessment methodology used in this EP.

The EOG Environmental Management System defines the company's requirements to mitigate and manage environmental risks at all levels within the business, and this risk management framework is described in this section. This framework is consistent with the Australian and New Zealand Standard for Risk Management (AS/NZS ISO 31000:2018, *Risk Management – Principles and Guidelines*).

Figure 6.1 outlines the risk assessment management process, with each step of this process described in this chapter. Note that for simplicity, this process is called a risk assessment process, even though impacts and risks are defined differently (see Section 6.3.1 for more information).



Figure 6.1. Risk management framework

6.1. Step 1 – Establish the Context

The first step in the risk assessment process is to establish the context. This involves:

- Understanding the regulatory framework in which the activity takes place (described in the 'Environmental Regulatory Framework' in Chapter 3);
- Defining the activities that will cause impacts and create risks (outlined in the 'Activity Description' in Chapter 2);
- Understanding the concerns of stakeholders and incorporating those concerns into the design of the activity where appropriate (outlined in Chapter 4, 'Stakeholder Consultation'); and
- Describing the environment in which the activity takes place (the 'Existing Environment' is described in Chapter 5 and Appendix 11).

Once the context has been established, the hazards of the activity can be identified, along with the impacts and risks of these hazards. This process is described in the following sections.

6.2. Step 2 – Communicate and Consult

In accordance with Regulations 11A and 14(9) of the OPI(E), EOG has consulted with relevant persons in the development of this EP to obtain information about their functions, activities and interests and assess how the activity may impact on these. This information has been used to inform the impact and risk assessment in the EP. The stakeholder consultation process is described in detail in Chapter 4.

6.3. Step 3 – Identify Risks

The steps used to identify the risks associated with each aspect of the activity include:

- Identify each hazard associated with the activity;
- Identify the sensitive environmental resources within and adjacent to the activity area;
- Identify the impacts and risks associated with each hazard;
    - For impacts, identify the environmental consequence of the impacts.
    - For risks, identify the likelihood (probability) of the risk occurring and the consequence if it does occur.
- Identify control measures; and
- Assign a level of risk to each potential environmental impact using a risk matrix.

In accordance with this framework, all risks must be reduced to a level that is considered to be ALARP (see Section 6.8.1).

A targeted risk assessment workshop was undertaken by EOG on the 1st of June 2022 to review the key drilling impacts and risks associated to ensure all necessary controls were adopted. The workshop involved drilling and environment project members. Following the review of the key hazards and their associated impacts and risks, control measures were also reviewed to ensure the impact consequence or risk rating is ALARP.

An assessment of what is 'reasonably practicable' with regard to the adoption of control measures requires professional judgements to be made against the relevant matrices using the advice of

technical experts as well as published standards, availability of mitigation measures and industry practice.

6.3.1 Definitions

The OPGGS(E) Regulations 21(5)(6) require that the EP detail and evaluate the environmental impacts and risks for an activity, including control measures used to reduce the impacts and risks of the activity to ALARP and an acceptable level. This must include impacts and risks arising directly or indirectly from all activity operations (i.e., planned events) or potential emergency conditions or incidents (i.e., unplanned events).

In its *Environment Plan content requirements* guidance note (N-04750-GN1344, September 2020g), NOPSEMA distinguishes between environmental impacts and risks. For context, Table 6.1 provides the definitions of impacts and risk according to the OPGGS(E) and international risk management standards.

For this activity, EOG has determined that impacts and risks are defined as follows:

- **Impacts** result from **planned** events – there *will* be consequences (known or unknown) associated with the event occurring. Impacts are an inherent part of the activity. For example, drill cuttings will be generated and discharged overboard and this will have consequences for marine life.
    - For impacts, only a consequence is assigned (likelihood is irrelevant given that the event will occur) (as per the risk matrix in Table 6.2).
- **Risks** result from **unplanned events** – there *may* be consequences if an unplanned event occurs. Risks are not an inherent part of the activity. For example, a hydrocarbon spill may occur if a support vessel collides with another vessel, but this is not a certainty. The risk of this event is determined by multiplying the consequence of the impact (using factors such as the type and volume of hydrocarbons and the nature of the receiving environment) by the likelihood of this event happening (which may be determined objectively or subjectively, qualitatively or quantitatively).
    - For risks, the consequence and likelihood are combined to determine the risk rating (see Table 6.2).

Table 6.1. Definitions of impact and risk

Source	Impacts	Risks
OPGGS(E) (Regulation 5)	Any change to the environment, whether adverse or beneficial, that wholly or partially results from an activity.	Not defined.
Environment Plan content requirements Guidance Note (N-04750-GN1344, September 2020g)	A planned event, an inherent part of the activity.	Not defined.
Environment Plan decision making Guideline (N04750-GL1721, June 2021a)	Any change to the environment, whether adverse or beneficial, that wholly or partially results from an activity.	Not defined.
NOPSEMA website (Environment > Assessment Process > Environment Plans > Titleholder FAQs)	Impact assessment is concerned with events that are reasonably certain to occur.	Risk assessment is concerned with events that may possibly occur.
ISO AS/NZS 31000: 2018 (Risk management – Principles and guidelines)	Not defined.	The effect of uncertainty on objectives.
ISO AS/NZS 14001: 2016 (Environmental management systems – Requirements with guidance for use)	Not defined.	The effect of uncertainty on objectives.
ISO AS/NZS 4360: 2004 (Risk management)	Not defined.	The chance of something happening that will have an impact on objectives.
HB203: 2012 (Managing environment-related risk)	Any change to the environment or a component of the environment, whether adverse or beneficial, wholly or partly resulting from an organisation's environmental aspects.	The effect of uncertainty on objectives. The level of risk can be expressed in terms of a combination of the consequences and the likelihoods of those consequences occurring.

6.4. Step 4 – Analyse the Risks

When analysing risk, the following must be considered:

- Identify the maximum credible consequence (being the reasonable worst case but non-fanciful outcome) arising from the impact or risk without introducing controls ('inherent' consequence). Then do the same after controls are introduced to determine the 'residual' consequence.
- Identify the likelihood of the risk event occurring ('remote' through to 'likely'), considering the controls identified and their effectiveness (inherent and residual).
- For risks, determine the level of risk using the matrix, being the intersection of consequence and likelihood.

6.4.1. Consequence Criteria

'Consequence' refers to the maximum credible outcome of an event affecting a receptor, value or use. EOG's consequence criteria are presented in Table 6.2. Where there is uncertainty or incomplete information, a conservative assessment is made on the basis of the maximum credible consequence. Consequence criteria have been developed to consider the extent, severity and duration of the impact or risk. Assigning a consequence criteria to a hazard also takes into account:

- Past records;
- Relevant experience;
- Industry practice and experience;
- Relevant published literature;
- Quantitative or engineering modelling; and
- Specialist or expert judgement.

Table 6.2. Consequence criteria

Consequence	Definition
Beneficial	• Likely to cause enhancement to the environment or socioeconomic benefits.
Negligible	• No changes, or small adverse changes unlikely to be noticed or measurable against background conditions.
Minor	• Adverse changes that can be monitored and/or noticed, but are within the scope of existing variability and do not meet any of the 'severe' or 'moderate' impact definitions.
Moderate	One or more of the following: • Localised, occasional violations of air or water quality standards or guidelines. • Localised contamination of sediments. • Localised damage to sensitive habitats such as hard bottom areas, chemosynthetic communities, mangroves or wetlands. • A few deaths or injuries of protected species, occasional, temporary disruption of their critical activities (e.g., breeding, nesting, nursing), and/or localized damage to their critical habitat. • Localised, short-term interference with fishing activities, recreation or tourism. • Localised damage to or contamination of beaches, parks, tourism areas, or other recreational resources. • Localised, short-term adverse impacts on the economy or socio-economic conditions.
Severe	One or more of the following: • Extensive, continual violation of air or water quality standards or guidelines. • Extensive, persistent contamination of sediments. • Extensive damage to sensitive habitats such as hard bottom areas, chemosynthetic communities, mangroves, or wetlands. • Extensive damage to non-sensitive habitats to the extent that ecosystem function and ecological relationships would be altered. • Numerous deaths or injuries of a protected species, continual disruption of their critical activities (e.g., breeding, nesting, nursing), and/or destruction of their critical habitat. • Extensive, continual interference with fishing activities, recreation, or tourism. • Extensive, persistent damage to or contamination of important cultural, historical or religious sites or tourism areas.

	• Extensive, persistent adverse impacts on the economy or socio-economic conditions. • A threat to public health or public safety. • Substantial public controversy or social unrest.

6.4.2. Likelihood Criteria

'Likelihood' refers to the chance of an event happening and the maximum credible consequence occurring from that event. EOG's likelihood criteria are presented in Table 6.3.

Table 6.3. Likelihood criteria

Probability	Definition
Likely	Can reasonably be expected to occur one or more times during the project. Impacts of most routine project activities are in this category.
Occasional	Not planned or expected, but could occur at some time during the project.
Rare	Highly unlikely; exceptional conditions may allow the event to occur during the project.
Remote	Has occurred before in the industry but is extremely unlikely to occur during the project.

6.4.3. Risk Matrix

Risk levels are assessed using the matrix presented in Table 6.4. The risk is evaluated by 'multiplying' likelihood and consequence. The recommended form of treatment action, escalation and monitoring for each risk level is provided in Table 6.5. The 'initial' rating (pre-treatment) and 'residual' risk rating (with control measures adopted) for each impact and risk is provided in Chapter 7.

Table 6.4. EOG risk assessment matrix

		Consequence				
		Beneficial	Negligible	Minor	Moderate	Severe
Likelihood	Likely	Beneficial	Negligible	Low	Medium	High
	Occasional	Beneficial	Negligible	Low	Medium	High
	Rare	Beneficial	Negligible	Negligible	Low	High
	Remote	Beneficial	Negligible	Negligible	Low	Medium

Table 6.5. Risk treatment action

Risk rating	Treatment action
HIGH The risk is intolerable	• For an operational activity, the risk shall be reduced as soon as possible, typically within a timescale of not more than a few weeks. • For commercial risks, review the risks and where practicable reduce by additional mitigation measures such as hedging, insurance, etc. • Repeat threat identification and risk evaluation processes to verify and, where possible, quantify the risk estimation; determine the accuracy and uncertainty of the estimation. • Modify the threat, the frequency or consequence to reduce the risk ranking to 'medium' or 'low.' • Where the risk ranking cannot be reduced to 'medium' or 'low', to demonstrate ALARP it is necessary to review if it is reasonably practicable to remove threats, reduce frequencies and/or reduce the severity of consequences, and if it is reasonably practicable, these risk treatment actions shall be applied. If it is not reasonably practicable, no further action is required and ALARP is demonstrated. • For an operational activity, the reduction to 'medium' or 'low' or demonstration of ALARP shall be completed as soon as possible; typically within a timescale of not more than a few months.
MEDIUM The risk is tolerable	• Determine the management plan for the threat to prevent occurrence and to monitor changes that could affect the classification. • Management responsibility must be specified – monitor to determine if risk changes and needs to be reassessed.
LOW The risk is tolerable	• Review at the next review interval. • Manage by routine procedures – reassess at next review.
NEGLIGIBLE The risk is tolerable	• Review at the next review interval. • Manage by routine procedures – reassess at next review.

6.5. Step 5 – Evaluate the Risk

The purpose of impact and risk evaluation (herein referred to simply as risk assessment) is to assist in making decisions, based on the outcomes of analysis, about the sorts of controls required to reduce an impact or risk to ALARP. Planned and unplanned events are subject to risk assessment in the same manner. Risk evaluation also considers the following:

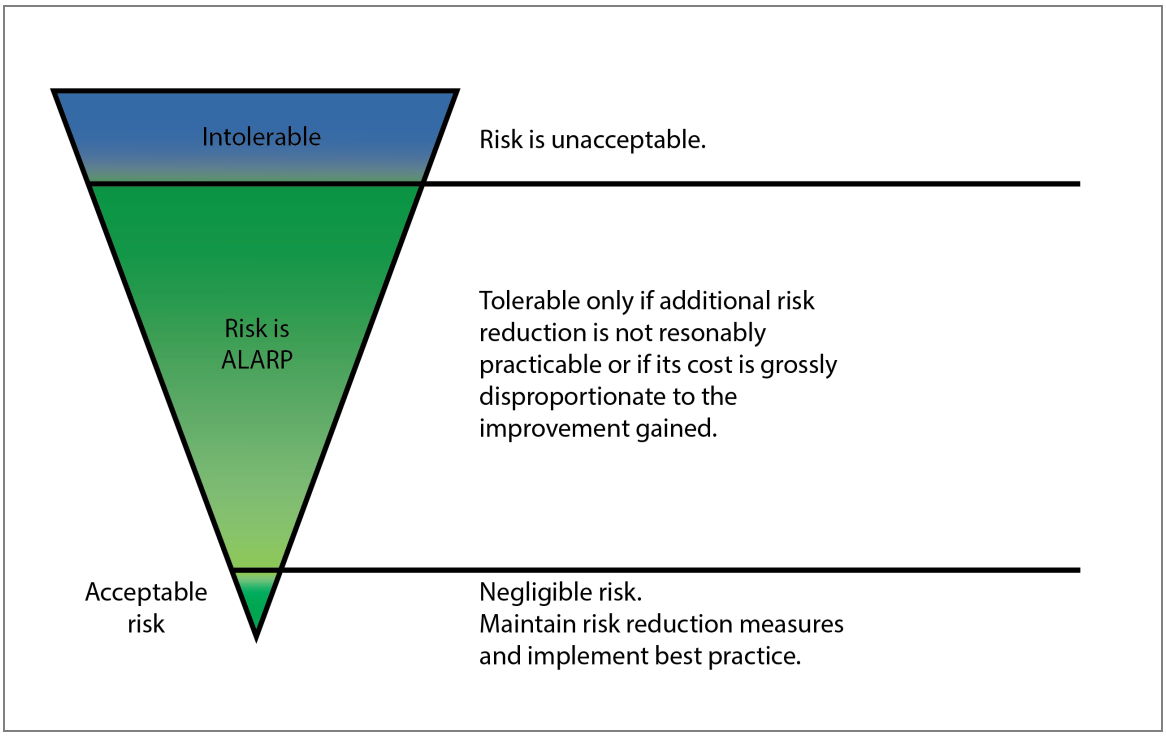
- Defining the level of risk (higher and lower order impacts and risks);
- Demonstration of ALARP;
- Uncertainty of impacts and risks;
- Demonstration of acceptability; and
- Principles of ESD.

Each of these considerations is described in more detail in this section.

6.5.1. Demonstration of ALARP

The ALARP principle states that it must be possible to demonstrate that the cost involved in reducing the risk further would be grossly disproportionate to the benefit gained. The ALARP principle arises from the fact that infinite time, effort and money could be spent attempting to reduce an impact or risk to zero. This concept is shown diagrammatically in Figure 6.2. EOG's approach to demonstrating ALARP includes:

- Systematically identifying and assessing all potential environmental impacts and risks associated with the activity;
- Where relevant, applying industry 'good practice' controls to manage impacts and risks;
- Assessing available and feasible control measures for their environmental benefit and cost, which is summarised in a cost-benefit analysis; and
- For higher order impacts and risks, implementing further controls if feasible and reasonably practicable to do so.



Source: CER (2015).

Figure 6.2. The ALARP Principle

There is no universally accepted guidance to applying the ALARP principle to environmental risk assessments. For this EP, the guidance provided in NOPSEMA's *Environment Plan decision making guideline* (N-04750-GL1721, June 2021a) has been applied and augmented where necessary. The level of ALARP assessment is dependent upon the:

- Residual impact and risk level (high versus low); and
- The degree of uncertainty associated with the assessed impact or risk.

An iterative risk evaluation process is employed until such time as any further reduction in the residual risk ranking is not reasonably practicable to implement. At this point, the impact or risk is reduced to ALARP. The determination of ALARP is outlined in Table 6.6.

Table 6.6. Alignment of EOG consequence and risk ratings with ALARP ratings

Consequence rating	Beneficial	Negligible	Minor	Moderate	Severe
ALARP level – planned event	Broadly acceptable	Tolerable if ALARP			Intolerable
Residual impact category	Lower order			Higher order	
Risk rating	Beneficial	Negligible	Low	Medium	High
ALARP level – unplanned event	Broadly acceptable	Tolerable if ALARP			Intolerable
Residual risk category	Lower order risks				Higher order risks

A description of how the ALARP process is applied to the risk assessment process for the project is presented in this section.

Hierarchy of Controls

EOG demonstrates ALARP, in part, by adopting the 'Hierarchy of Controls' philosophy (Figure 6.3). The hierarchy of controls is a system used across hazardous industries to minimise or eliminate exposure to hazards. The hierarchy of controls is, in order of effectiveness:

- Elimination;
- Substitution;
- Engineering controls;
- Administrative controls; and
- Personal protective equipment (PPE) – this has not been included here as it is specific to the assessment of safety risks rather than environmental management.

Although commonly used in the evaluation of occupational health and safety hazard control, the hierarchy of controls philosophy is also a useful framework to evaluate potential environmental controls to ensure reasonable and practicable solutions have not been overlooked. To this effect, the assessment of control measures presented in the impact and risk assessment tables in Chapters 7 and 8 of this EP take into account the hierarchy of controls, in the order listed above.

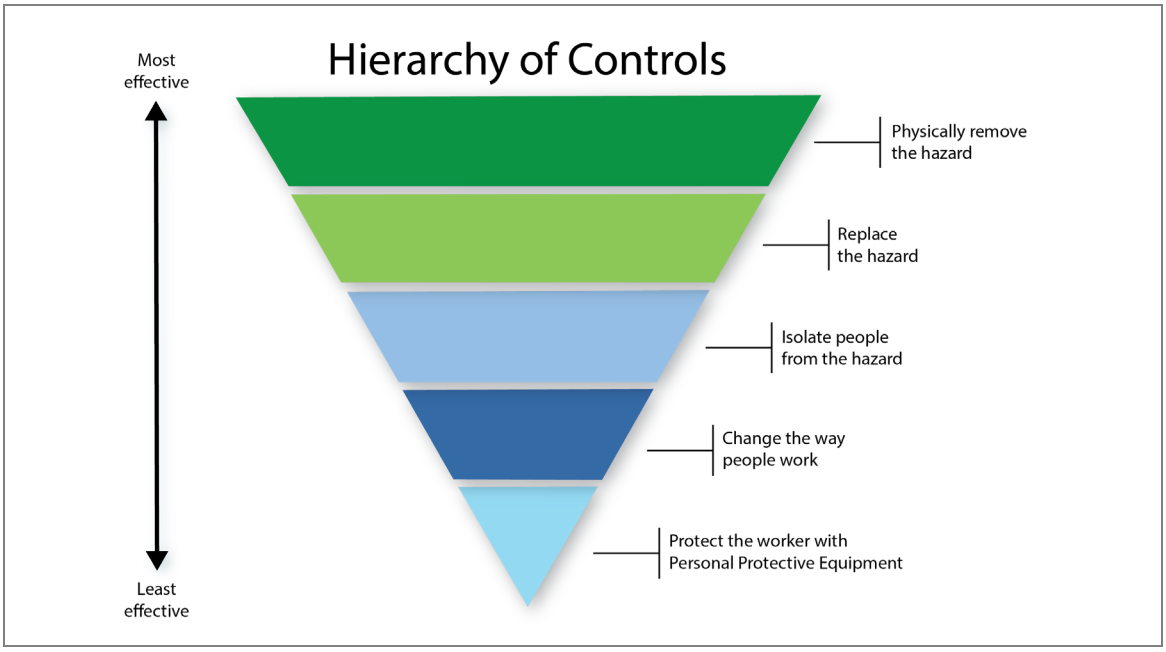


Figure 6.3. The Hierarchy of Controls

Assessing the Suitability of Available Control Measures

NOPSEMA's *Environment Plan decision making guideline* (N-04750-GL1721, June 2021a) states that in order to demonstrate ALARP, a titleholder must be able to implement all available control measures where the cost is not grossly disproportionate to the environmental benefit gained from implementing the control measure. This process is applied in the demonstration of ALARP sections in the impact and risk assessment tables throughout Chapters 7 and 8. When deciding on whether to implement proposed control measures in the impact and risk assessment tables in Chapter 7, the issues outlined in Table 6.7 are considered.

Table 6.7. Considerations for the adoption of control measures

Consideration	Question
Environmental benefit (EB)	• Does it provide a clear or measurable reduction in environmental impact or risk? • What are the environmental benefits to receptors if the measure is adopted?
Cost (C)	• What is the relative cost (which includes money, time, and resources) that may be borne by EOG if the control measure is adopted? • Does it introduce additional risk in other operational areas (e.g., will the implementation of a control measure have an impact elsewhere (such as additional emissions and discharges or safety risks to personnel))? • Is it technically feasible and can it be implemented?

Evaluation (Ev)	• Is it consistent with national or industry standards and practices?
	• Will the change be effective, taking into account the:
	  ○ Sensitivity of the receptor;
	  ○ Current level of risk with the existing controls;
	  ○ Amount of additional risk reduction that the control will deliver;
	  ○ Level of confidence that the risk reduction impact will be achieved; and
	  ○ Resources, schedule and cost required to implement the control.

Reducing impacts and risks to ALARP is an ongoing process and new risk reduction measures may be identified at any time, including during the activity. EOG actively encourages recording and review of observations through its incident management system. Incidents and lessons learned within EOG and from the wider industry are reviewed and utilised to identify hazards and controls.

Defining the Level of Risk

Lower-order Environmental Impacts and Risks

NOPSEMA defines lower-order environmental impacts and risks as those where the environment or receptor is not formally managed, less vulnerable, widely distributed, not protected and/or threatened and there is confidence in the effectiveness of adopted control measures. Impacts and risks are considered to be lower-order and ALARP when, using EOG's risk matrix (see Table 6.4), the residual:

- Impact consequence is rated as 'beneficial', 'negligible' or 'minor'; or
- Risk rating is 'beneficial', 'negligible', 'low' or 'medium' (see also Table 6.5).

In these cases, applying 'good industry practice' (see Section 6.8.3) control measures is sufficient to manage the impact or risk to ALARP.

Higher-order Environmental Impacts and Risks

NOPSEMA defines higher-order environmental impacts and risks as those that are not lower order risks or impacts (i.e., where the environment or receptor is formally managed, vulnerable, restricted in distribution, protected or threatened and there is little confidence in the effectiveness of adopted control measures). Impacts and risks are considered to be higher-order when, using the EOG risk matrix (see Table 6.4), the residual:

- Impact consequence is rated as 'moderate' or 'severe'; or
- Risk rating is 'high' (see also Table 6.5).

In these cases, further controls must be considered as per Section 6.8.3.

Uncertainty of Impacts and Risks

Based upon the level of uncertainty associated with the impact or risk, the following framework from the Guidance on Risk Related Decision Making (Oil & Gas UK, 2014) (Figure 6.3) provides the decision-making framework to establish ALARP.

This framework provides appropriate tools, commensurate to the level of uncertainty or novelty associated with the impact or risk (referred to as the Decision Type A, B or C). The decision type is selected based on an informed decision around the uncertainty of the risk. Decision types and methodologies to establish ALARP are outlined in Table 6.8.

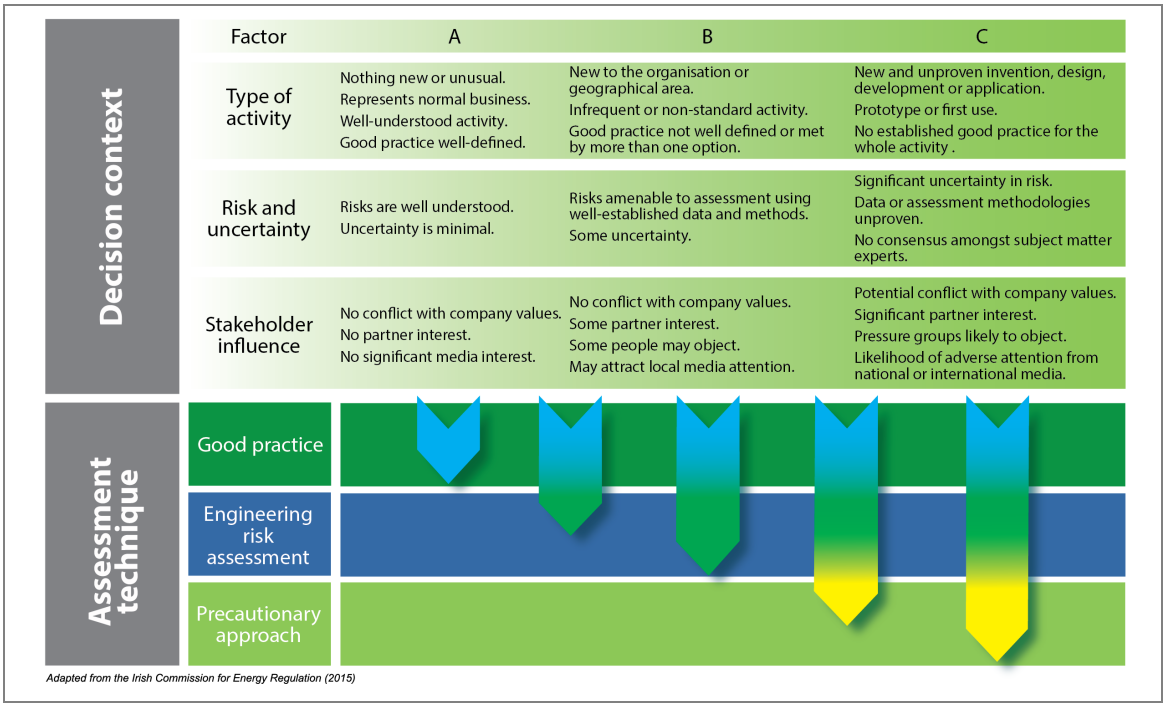


Figure 6.4. Impact and risk 'uncertainty' decision-making framework

Table 6.8. ALARP decision-making based upon level of uncertainty

Decision type	Decision-making tools
A	<u>Good industry practice</u> Identifies the requirements of legislation, codes and standards that are to be complied with for the activity. Applies the 'Hierarchy of Controls' philosophy, which is a system used in the industry to identify effective controls to minimise or eliminate exposure to impacts or risks. Identifies further engineering control standards and guidelines that may be applied over and above that required to meet the legislation, codes and standards.
B	*In addition to decision type A:* <u>Engineering risk-based tools</u> Engineering risk-based tools to assess the results of probabilistic analyses such as modelling, quantitative risk assessment and/or cost benefit analysis to support the selection of control measures identified during the risk assessment process.
C	*In addition to decision type A and B:* <u>Precautionary Principle</u> Application of the Precautionary Principle is to be applied when good industry practice and engineering risk-based tools fail to address uncertainties.

The decision-making tools outlined in Table 6.8 are explained further here.

<u>Good Practice</u>

In the absence of an Australian definition, the OGUK (2014) and the Irish Commission for Energy Regulation (CER) (2015) define 'Good Practice' as:

> *The recognised risk management practices and measures that are used by competent organisations to manage well-understood hazards arising from their activities.*

NOPSEMA has not endorsed any 'approved codes of practice' or standards to give them a legal status in terms of good practice. Good practice is taken to refer to any well-defined and established standard or codes of practice adopted by an industrial/occupational sector, including 'learnings' from incidents that may yet be incorporated into standards.

Good practice can also be used as the generic term for those standards for controlling risk that have been judged and recognised as satisfying the law when applied to a particular relevant case in an appropriate manner. For this EP, sources of good practice, adapted from CER (2015) are the relevant:

- Commonwealth, state and territory legislation and regulations (outlined in Section 3.2 and Section 3.3);
- Government guidance (outlined in Section 3.4);
- International conventions (outlined in Section 3.5); and
- Industry standards (outlined in Section 3.6).

Good practice also requires that hazard management is considered in a hierarchy, with the concept being that it is inherently safer to eliminate a hazard than to reduce its frequency or manage its consequences (CER, 2015). This being the case, the 'hierarchy of controls' philosophy is applied to reduce the risks associated with hazards (described in Section 6.8.1).

Engineering Risk Assessment

All impacts and risks that require assessment beyond that of good practice (i.e., decision type A) are subject to an engineering risk assessment. Engineering risk-based tools can include, but are not limited to, engineering analysis (e.g., structural, fatigue, mooring, process simulation) and consequence modelling (e.g., ship collision, dropped object) (CER, 2015). A cost-benefit analysis to support the selection of control measures identified during the risk assessment process may also be undertaken.

Precautionary Principle

All impacts and risks that do meet decision type A or type B and require assessment beyond that of good practice and engineering risk assessment are subject to the 'Precautionary Principle'. CER (2015) states that if the assessment, taking account of all available engineering and scientific evidence, is insufficient, inconclusive or uncertain, then the precautionary principle should be adopted in the hazard management process. While there is no globally-recognised definition of the Precautionary Principle, it is generally accepted to mean:

> *Uncertain analysis is replaced by conservative assumptions which will increase the likelihood of a risk reduction measure being implemented.*

The degree to which this principle is adopted should be commensurate with the level of uncertainty in the assessment and the level of danger (hazard consequences) believed to be possible.

Under the precautionary principle, environmental considerations are expected to take precedence over economic considerations, meaning that an environmental control measure is more likely to be implemented. In this decision context, the decision could have significant economic consequences to an organisation.

6.5.2. Demonstration of Acceptability

Regulation 21(5)(c) of the OPGGS(E) requires the EP to demonstrate that environmental impacts and risks are acceptable. EOG considers a range of factors to demonstrate the acceptability of the environmental impacts and risks associated with its activities. This evaluation works at several levels, as outlined in Table 6.9. The criteria for demonstrating acceptability were developed based on EOG's interpretation of NOPSEMA's *Environment Plan decision making guideline* (N-04750-GL1721-GL1721, June 2021a).

Table 6.9. Acceptability criteria

Test	Question	Acceptability demonstrated
Internal context		
Policy compliance	Is the proposed management of the hazard aligned with EOG's Safety and Environmental Policy?	The impact or risk must be compliant with the objectives of the policy.
Management System Compliance	Is the proposed management of the hazard aligned with EOG's Safety and Environment Management System?	Where specific EOG procedures, guidelines or expectations are in place for management of the impact or risk, acceptance is demonstrated.
External context		
Stakeholder engagement	Have relevant persons and stakeholders raised any concerns about activity impacts or risks? If so, are control measures in place to manage those concerns?	Merits of claims or objections raised by relevant persons and stakeholders must have been adequately assessed and additional control measures adopted where appropriate.
Legislation, industry standard and best practice		
Legislative context	Do the control measures meet the expectations of existing Commonwealth, WA or NT legislation?	The proposed control measures align with legislative requirements.
Industry practice	Do the control measures align with international and Australian industry guidelines and practices?	The proposed control measures align with relevant industry guidelines and practices.
Environmental context	What are the overall impacts and risks to MNES and other areas of conservation significance? Do control measures align with the aims and objectives of marine park management plans and species conservation advice, recovery plans or threat abatement plans?	There are no long-term impacts to MNES and the proposed control measures ensure that impacts or risks are not inconsistent with the aims and objectives of marine park management plans and species conservation advice, recovery plans or threat abatement plans.
ESD Principles*	Are the control measures aligned with the principles of ESD?	The EIA presented throughout Chapter 7 is consistent with the principles of ESD.

**See Table 6.10 for more information.*

Principles of Ecologically Sustainable Development

Based on Australia's National Strategy for Ecologically Sustainable Development (Council of Australian Governments, 1992), Part 3A of the EPBC Act defines ESD as:

> *Using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained and the total quality of life, now and in the future, can be increased.*

Table 6.10 outlines the principles of ESD as defined under the EPBC Act and describes how this EP aligns with these principles.

Table 6.10. Assessment of ESD principles

Principle		EP demonstration
A	Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.	This principle is inherently met through the EP assessment process.
B	If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.	Serious or irreversible environmental damage resulting from the activity has been eliminated through the activity design (see Chapter 2). None of the residual impacts is rated higher than 'moderate' and none of the residual risks is rated higher than 'medium.' Scientific certainty has been maximised by employing a spill EMBA as a risk assessment boundary.
C	The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.	The EP assessment methodology ensures that risks from the activity are managed to be ALARP and acceptable.
D	The conservation of biodiversity and ecological integrity should be a fundamental consideration in decision making.	This principle is considered for each hazard in the adoption of environmental controls (i.e., environmental performance outcomes and environmental performance standards) that aim to minimise environmental harm. There is a strong focus in this EP on conserving biodiversity and ecological integrity by understanding the marine environment and commercial fishing activity in the activity area and EMBA (Chapter 5) and implementing control measures to minimise impacts and risks (Chapter 7).
E	Improved valuation, pricing and incentive mechanisms should be promoted.	This principle is not relevant to this activity.

6.6. Step 6 – Treat the Risk

The activity environmental impact and risk register (discussed in Section 6.2) and this EP record the environmental control measures (e.g., measures to prevent, minimise and mitigate impacts and risks) that were determined by a qualified and experienced team familiar with the activity and the sensitivities of the existing environment. These control measures are listed throughout the impact assessment and risk assessment tables in Chapters 7 and 8.

6.7. Step 7 – Monitor and Review

Monitoring and review activities are incorporated into the impact and risk management process to ensure that control measures are effective and efficient in both design and operation. This is achieved through the environmental performance outcomes and standards and measurement criteria that are assigned to each environmental hazard.

The monitoring and review process is undertaken to support the compliance reporting process and is an opportunity to identify emerging risks that have arisen, that need to be analysed and addressed, if required. Monitoring and review of activities are described in the Implementation Strategy (Chapter 9).